

**U.S. v. Kwame Prempeh**  
**07. Cr. 311 (DAB)**

**EXHIBITS**

**Exhibit A** - Selected Pages from Publication 107: The Presentence Investigation Report, Office of Probation and Pretrial Services, March 2006

**Exhibit B** - *Social Security: Migrants Offer Numbers for Fee*, By Eduardo Porter, The New York Times, June 7, 2005

**Exhibit C** - Statement of Kwame Prempeh

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**Exhibit E** -Brain Immaturity Could Explain Teen Crash Rate, By Elizabeth Williamson, Wash. Post, Feb. 1, 2005 at A01

## **EXHIBIT A**



## **THE PRESENTENCE INVESTIGATION REPORT**

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**Publication 107**  
*Office of Probation and Pretrial Services*  
*Administrative Office of the United States Courts*  
*(Rev. March 2006)*

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## Introduction

Selection of an appropriate sentence is one of the most important decisions to be made in the criminal justice system. The primary vehicle to assist the sentencing court in fulfilling this responsibility is the presentence investigation report. The task of conducting presentence investigations is assigned to U.S. probation officers, an assignment requiring a professional presentence report of the highest quality. This document is a guide for U.S. probation officers in the preparation of presentence reports. It provides a uniform format for presentence reports throughout the Federal judiciary.

In 1943 the Administrative Office of the United States Courts issued Publication 101, *The Presentence Investigation Report*, which was revised in 1965 as Publication 103. In 1974 Publication 104, *The Selective Presentence Investigation Report*, was produced. Those publications were prepared by committees of special consultants under the guidance of the Judicial Conference Committee on the Administration of the Probation System and represented state-of-the-art professional judgment regarding the critical contents of the presentence report. Subsequent developments in statutory and case law redefined the contents and use of the report, leading to development of the 1978 monograph entitled Publication 105, *The Presentence Investigation Report*, subsequently updated in 1984.

In November 1987, the Sentencing Reform Act of 1984 became effective, radically changing the philosophical model for sentencing offenders in the Federal courts. Congress relinquished an indeterminate model of sentencing and adopted a determinate model based upon national guidelines. Radical changes in the content and format of the presentence report were necessary to accommodate the new sentencing process. In September 1987, Publication 107, *Presentence Investigation Reports Under the Sentencing Reform Act of 1984*, was issued setting forth the revised format of the presentence report. In 1990, after four years of guideline sentencing experience, the new presentence report format was evaluated and revisions to Publication 107 were issued.

In January 2005, the Supreme Court ruled in *United States v. Booker*, 125 S.Ct. 738 (2005), that the mandatory nature of the sentencing guidelines subjected them to the jury trial requirements of the Sixth Amendment of the Constitution. The Court further held that since it was not Congress's intent to have sentencing facts decided by juries, the appropriate remedy was to strike those provisions of the Sentencing Reform Act of 1984 that made the sentencing guidelines mandatory. The result was a system in which the sentencing courts are required to consider the sentencing options recommended by the sentencing guidelines, but judges are free to impose any sentence authorized by Congress.

This document offers guidance to officers working in a post-*Booker* sentencing system. It relies upon the judgment and years of experience of those who produce or work with the presentence report on a daily basis. The guidance offered in this document supports the goals of assisting judicial officers in making sentencing decisions and assisting corrections and community corrections officials in supervising offenders.

## **Chapter I - The Presentence Investigation Report in the Federal System**

### **Philosophy**

As a component of the federal judiciary responsible for community corrections, the Federal Probation and Pretrial Services System is fundamentally committed to providing protection to the public and assisting in the fair administration of justice.

As community corrections professionals, probation officers preparing presentence reports possess and use skills from various disciplines to investigate relevant facts about defendants; assess those facts in light of the purposes of sentencing; apply the appropriate guidelines, statutes, and rules to the available facts; and provide clear, concise, and objective reports that will assist the sentencing judges in determining appropriate sentences, aid the Bureau of Prisons in making classification, designation and programming decisions, and assist the probation officer during supervision of the offender in the community.

The probation officer's role as the court's independent investigator is critical, although the scope of any investigation may be modified by the court. Officers should be open to receiving information from all parties, but should be cautious about adopting any party's interpretation outright. It is the probation officer's responsibility to prepare all sections of the presentence report, including the tentative advisory guideline range. Attorneys for opposing sides may aggressively contest the accuracy of facts contained in the presentence report or application of the guidelines to those facts. Officers should be prepared to respond to these situations professionally by having all supporting documentation readily at hand. Throughout the investigation, the officer treats the defendant, the attorneys, and others with whom they are in contact with dignity and respect.

### **Functions and Objectives**

The aim of the presentence investigation is to provide a timely, accurate, objective, and comprehensive report to the court. The report should have enough information to assist the court in making a fair sentencing decision and to assist corrections and community corrections officials in managing offenders under their supervision.

Officers must operate under the time frames established in the Federal Rules of Criminal Procedure or under local rules established by the court. As such, once a defendant has been referred to the probation office, the presentence investigation commences without delay. Officers should attempt to interview defendants early in the investigation so that there is sufficient time to verify and analyze information and disclose the report. Timely disclosure gives the parties an opportunity to review the report for accuracy and identify potential errors before sentencing. Effectively managing the investigation will ensure that delays are avoided and resources conserved. Early contact with the attorneys helps ensure that deadlines can be met.

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While time is limited, officers must endeavor to produce a quality report for the court. All relevant aspects of the defendant's personal history and background should be explored. In some cases, however -- such as those involving defendants with no ties to the country, or at the court's direction -- the scope of the investigation may be curtailed. While certain investigative steps, like the personal interview, are essential to preparing a quality report, other tasks may not be necessary in certain circumstances. Officers need to be able to identify when more comprehensive investigations are needed, and manage the investigation accordingly.

The presentence report will follow the defendant through his or her contacts in the federal criminal justice system. Many decisions -- from the sentence imposed, to the type of prison -- are made based on information presented in the report. Officers should take great care in what they include in the reports, clearly distinguishing among information that is verified, corroborated, or alleged. Every effort should be made to provide the court with reliable information, since inaccurate information that is relied on by the court or others may lead to unfair or unintended results.

The report is designed to provide the court with a complete and concise picture of the defendant. Recognizing that each defendant is unique, officers should strive to remain objective. During the investigation, the officer should give all parties an opportunity to submit relevant information. When drafting the report, the officer should avoid using subjective language or labels that may mean different things to different audiences. Officers appearing in court should maintain their independence, and avoid the appearance of favoring one party over another. While *in camera* discussions with the court are encouraged, officers should not use that time to provide factual information to the judge that was otherwise excluded from the report (unless the information was excluded pursuant to the Federal Rules of Criminal Procedure). The officer's objectivity and professionalism during the presentence and sentencing phases promote the fair treatment of the defendant, and may instill in the defendant the desire to cooperate with corrections and community corrections officials in the later phases of the federal criminal justice system.

The purposes and goals of the presentence investigation are established by various statutes and rules, and by the values and principles established for the Federal Probation and Pretrial Services System.

### **Statutory Authority and Requirements**

Rule 32 of the Federal Rules of Criminal Procedure provides that the probation officer shall conduct a presentence investigation and submit a report to the court at least seven days before the imposition of sentence, unless the court finds that there is sufficient information in the record to enable the meaningful exercise of sentencing authority. The probation officer must conduct an investigation and submit a report if the law requires restitution. There will be no presentence report prepared for defendants sentenced under 18 U.S.C. § 3593(c) or 21 U.S.C. § 848(j).

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## Choosing Among the Kinds of Sentences Available

### Custody

In certain cases, a term of imprisonment will be required by statute or the guidelines. In other cases, the court may have an alternative to imprisonment to choose from. It is important to note that pursuant to 18 U.S.C. § 3582, “imprisonment is not an appropriate means of promoting correction and rehabilitation.” Officers should consider the appropriateness of any available alternatives before deciding to recommend a term of imprisonment.

If imprisonment is recommended, the officer will generally select a term of months within the advisory guideline range. In deciding a point within the range to recommend, it may help the officer to visualize a continuum. Defendants with more aggravating factors and presenting a high-risk recidivism and/or danger to the community should have sentences falling toward the high end of the guideline range. Defendants with more mitigating factors and presenting low risks should fall toward the low end of the range. Departures are reserved for extraordinary cases at either end of the guideline range that can be supported by the policy statements. Sentences outside of the guideline system will rarely be recommended by the officer. If, however, after considering all of the options available under the advisory guidelines -- including departures under the policy statements -- the officer believes that the purposes of sentencing set forth in 18 U.S.C. § 3553(a) can only be achieved by a sentence outside of the guideline system, the officer should recommend another sentence authorized by statute and clearly cite the facts that support their recommendation in the justification.

The officer will want to consider the following questions in recommending a term of imprisonment:

- Are there any statutory consecutive sentences required, such as 18 U.S.C. § 924(c) or 18 U.S.C. § 3147?
- Does the defendant have an undischarged term of imprisonment? How will U.S.S.G. §5G1.3(a), (b) or (c) affect the recommended sentence?
- Does the defendant have a pending sentence?
- What programs offered by the Bureau of Prisons will benefit this defendant? The local Bureau of Prison’s Community Corrections Manager or the Bureau of Prison’s website are valuable resources for researching the most current programming options available, the eligibility requirements for these programs (e.g., immigration status), and the names of the facilities at which the programs are offered. Examples of some of the Bureau’s programs include:

## **EXHIBIT B**



**June 7, 2005**

Social Security: Migrants Offer Numbers for Fee

By **EDUARDO PORTER**

TLALCHAPA, Mexico - Gerardo Luviano is looking for somebody to rent his Social Security number.

Mr. Luviano, 39, obtained legal residence in the United States almost 20 years ago. But these days, back in Mexico, teaching beekeeping at the local high school in this hot, dusty town in the southwestern part of the country, Mr. Luviano is not using his Social Security number. So he is looking for an illegal immigrant in the United States to use it for him - providing a little cash along the way.

"I've almost managed to contact somebody to lend my number to," Mr. Luviano said. "My brother in California has a friend who has crops and has people that need one."

Mr. Luviano's pending transaction is merely a blip in a shadowy yet vibrant underground market. Virtually undetected by American authorities, operating below the radar in immigrant communities from coast to coast, a secondary trade in identities has emerged straddling both sides of the Mexico-United States border.

"It is seen as a normal thing to do," said Luis Magaña, an immigrant-rights activist assisting farm workers in the agriculture-rich San Joaquin Valley of California.

The number of people participating in the illegal deals is impossible to determine accurately. But it is clearly significant, flourishing despite efforts to combat identity fraud.

Hundreds of thousands of immigrants who cross the border from Mexico illegally each year need to procure a legal identity that will allow them to work in the United States. Many legal immigrants, whether living in the United States or back in Mexico, are happy to provide them: as they pad their earnings by letting illegal immigrants work under their name and number, they also enhance their own unemployment and pension benefits. And sometimes they charge for the favor.

Martin Mora, a former migrant to the United States who these days is a local politician preparing to run for a seat in the state legislature in next October's elections, said that in just one town in the Tlalchapa municipality, "of about 1,000 that fixed their papers in the United States there might be 50 that are here and lending their number."

Demand for American identities has blossomed in the cracks between the nation's increasingly unwelcoming immigration laws and businesses' unrelenting demand for low-wage labor.

In 1986, when the Immigration Reform and Control Act started penalizing employers who knowingly hired illegal immigrants, most employers started requiring immigrants to provide the paperwork - including a Social Security number - to prove their eligibility to work.

The new law did not stop unauthorized immigrant work. An estimated 10 million illegal immigrants live in the United States today, up from some 4 million before the law went into effect. But it did create a thriving market for fake documents.

These days, most immigrants working unlawfully buy a document combo for \$100 to \$200 that includes a fake green card and fake Social Security card with a nine-digit number plucked out of thin air. "They'll make it for you right there at the flea market," said David Blanco, an illegal immigrant from Costa Rica who works as an auto mechanic in Stockton, Calif.

This process has one big drawback, however. Each year, Social Security receives millions of W-2 earning statements with names or numbers that do not match its records. Nine million poured in for 2002, many of them just simple mistakes. In response the agency sends hundreds of thousands of letters asking employers to correct the information. These letters can provoke the firing of the offending worker.

Working with a name linked to a number recognized by Social Security - even if it is just borrowed or leased - avoids these pitfalls. "It's the safest way," said Mario Avalos, a Stockton accountant who every year does tax returns for dozens of illegal immigrants. "If you are going to work in a company with strict requirements, you know they won't let you in without good papers."

While renting Social Security numbers makes up a small portion of the overall use of false papers, those with close ties to the immigrant communities say it is increasingly popular. "It used to be that people here offered their number for somebody to work it," said Mr. Mora in Tlalchapa. "Now people over there are asking people here if they can use their number."

Since legal American residents can lose their green cards if they stay outside the country too long, for those who have returned to Mexico it is useful to have somebody working under their identity north of the border.

"There are people who live in Mexico who take \$4,000 or \$5,000 in unemployment in the off season," said Jorge Eguiluz, a labor contractor working in the fields around Stockton, Calif. "They just lend the number during the season."

The deals also generate cash in other ways. Most identity lending happens within an extended family, or among immigrants from the same hometown. But it is still a hard-nosed transaction. Illegal immigrant workers usually earn so little they are owed an income tax refund at the end of the year. The illegal immigrant "working the number" will usually pay the real owner by sharing the tax refund.

"Sometimes the one who is working doesn't mind giving all the refund, he just wants to work," said Fernando Rosales, who runs a shop preparing income taxes in the immigrant-rich enclave of Huntington Park, Calif. "But others don't, and sometimes they fight over it. We see that all the time. It's the talk of the place during income tax time."

Done skillfully, the underground transactions are virtually undetectable. They do not ring any bells at the Social Security Administration. Nor do they set off alarms at the Internal Revenue Service as long as the person who lends the number keeps track of the W-2's and files the proper income tax returns.

In a written response to questions, the audit office of Social Security's inspector general acknowledged that "as long as the name and S.S.N. on an incoming wage item (i.e., W-2) matches S.S.A.'s record" the agency will not detect any irregularity.

The response noted that the agency had no statistics on the use of Social Security numbers by illegal immigrants. It does not even know how many of the incorrect earnings reports it receives every year come from immigrants working unlawfully, though immigration experts estimate that most do.

Meanwhile, with the Homeland Security Department focused on terrorism threats, it has virtually stopped policing the workplace for run-of-the-mill work violations. Immigration and Customs Enforcement arrested only 450 illegal immigrants in the workplace in 2003, down from 14,000 in 1998.

"We have seen identity fraud," said John Torres, deputy assistant director for investigations. But "I haven't heard of the renting of identities."

Immigrants on both sides of the transactions are understandably reluctant to talk about their participation.

A 49-year-old illegal immigrant from Michoacán who earns \$8.16 an hour at a waffle factory in Torrance, Calif., said that she had been using a Social Security number she borrowed from a friend in Mexico since she crossed illegally into the United States 15 years ago. "She hasn't come back in this time," the woman said.

There are risks involved in letting one's identity be used by someone else, though, as Mr. Luviano, the beekeeping instructor, learned through experience.

Mr. Luviano got his green card by a combination of luck and guile. He says he was on a short trip to visit his brother in California when the 1986 immigration law went into effect and the United States offered amnesty to millions of unauthorized workers.

Three million illegal immigrants, 2.3 million of them from Mexico, ultimately received residence papers. Mr. Luviano, who qualified when a farmer wrote a letter avowing he had worked for months in his fields, was one. Once he had his papers, though, he returned to Tlalchapa.

He has entered the United States several times since then, mostly to renew his green card. But in the early 1990's, concerned that long absences could put his green card at risk and spurred by the chance to make a little extra money, he lent his Social Security number to his brother's friend. "I kept almost all the income tax refund," Mr. Luviano said.

Mr. Luviano decided to pull the plug on the arrangement, however, when bills for purchases he had not made started arriving in his name at his brother's address. "You lend your number in good faith and you can get yourself in trouble," he said.

But Mr. Luviano is itching to do it again anyway. He knows that Social Security could provide retirement income down the line. And there's always the tax refund.

"I haven't profited as much as I could from those documents," he said ruefully.

## **EXHIBIT C**

STATEMENT BY KWAME PREMPEH

When I was a young child, my father left our family and I became the head of our household. As the oldest son of my mother, it was my responsibility to care for her and my younger brother and sister. I could not do that in Ghana, and like many other Ghanaians, at age 16 I came to the United States so I could make money to help support my family.

I worked consistently since I came here, and sent about 70-80 percent of what I have made home to my family. I have been proud to be able to help support them. My mother has sickle cell anemia and is unable to work. My younger brother and sister are 13-year-old twins, and the money I sent home allowed them to continue their education.

When I came to New York, I began working "off the books" at a 99 cents store. Soon afterwards, at age 16, I was managing the store on my own. I was paid \$225/week and worked 6 days a week, 10 hours a day. I made \$3.75/hour. I knew that I was being cheated, but as an undocumented person, I didn't have any other option.

After a time, I learned through my community of a way to get a better job. Immigrants from Ghana who are permanent residents or citizens of this country often lend their names and social security numbers to undocumented countrymen so that they can get paid the minimum wage.

I began working as a security guard at \$6/hour. I worked long hours, double shifts, and took as much overtime as I could get. By 2006, I was making \$9/hour. I was proud of the support that I was able to provide to my family. My mother and brother and sister lived in a one-room shack on someone else's land. With the money I sent them, my mother was able to buy a small piece of land and to build a 2-room house that she can call her own and that no one can take away from her.

Near the end of 2006, the person whose social security number I was using told me that I could no longer use it. I tried to find another social security number, but I was unsuccessful. I needed to work and to make money. I didn't know what to do, and I was worried about my family.

I was desperate, at this moment a friend suggested that I join a conspiracy in which people's names and identities were stolen in order to purchase electronic goods. I knew that it was wrong, but I didn't know what else to do. I was ashamed. I am a devout Muslim, and it was against my religion and personally shameful for me to be a part of this criminal activity. I hid what I was doing from my family. I was in denial even with myself. I told myself that I would only do it for a few months, that I would save some money, that I would find another social security number to use, or that my girlfriend and I would marry and that I would become a permanent resident and be able to hold my head high and be proud of myself.

I knew from the beginning that I had made a terrible mistake. I am deeply sorry for what I have done – more sorry than you can imagine. I dishonored my family, and I offended my God. I deserve to be punished for the crimes I have committed, but my family does not deserve to suffer for my mistakes, and I know that I am responsible for their suffering. For me, this is the worst punishment – much worse than the years that I will spend in prison. I want to lead an honorable life. I want to take care of my family, and be a role model for my brother and sister. I want to go to college and become a chemical engineer. I hope and pray that I have the chance to do this with my life.

## **EXHIBIT D**

C/O Abena Ofori  
Post Office Box AN 10544  
Accra North  
GHANA  
14<sup>th</sup> October, 2007

HONORABLE DEBORAH A. BATTS  
United States District Judge  
Southern District of New York  
United States Courthouse  
500 Pearl Street  
New York, New York 10007

Dear Honorable Judge Batts,

**LETTER OF PARDON IN FAVOUR OF KWAME OSEI PREMPEH**

My Lord, I am Mr. Abass Karim a close friend of Kwame. I am 32 years old and a teacher. I am very active in my community activities such as communal labour, volunteerism, counseling for youth and all forms of programs geared towards uplifting the community and it's under privileged inhabitants.

We undertake such programs because, we live in a community in Accra called Mamobi, which is one of the poverty stricken communities in Accra. It is a community without good sanitary facilities (toilets) drains, hospital water, high illiteracy rate and generally pervasive poverty. People in this communities struggle day-in-day-out to keep body and soul together. It is the community where people live on less than \$1 per day.

Kwame has been very close to me for the years before he left to United State of America. He sees me as his elderly brother, mentor and teacher after the death of Imam Adam. He has always admired me, and has for one his life strived to like a good life and a responsible life as well.

Because of the peculiar place we come from, it is the dream of every hard working young man here to succeed in life and to take care of their families and extended families as well.

Kwame comes from a family of (3) three from his mother's side but (13) thirteen from his father's side. Kwame's father left them to Abroad when they were young; so this rendered Kwame to have extended family responsibilities as similar as his father.

It was through my advice, prayer and counseling that God blessed him and accepted his prayers. Knowing Kwame very well as somebody very dedicated, obedient, hardworking, law abiding, responsible, kind hearted person and prayerful. We all knew he will achieve the American dream too and his poverty stricken family will be liberated.



My Lord, since the time Kwame stepped on the American soil and dedicated as he is, he has since been the family's sole helper. Remitting monies monthly and at times weekly in sums of \$20, \$100, \$50 and \$200 to pay school fees of his brothers and that of extended families, medical bill, utility bills and for feeding. My Lord, I have been a great beneficiary of Kwame's benevolence as well. Kwame is the main stay of the entire family; if he does not send money someone will be deprived of his right to education, someone will be deprived of access to medial attention, someone will go hungry and someone might die.

My Lord, considering all that I have said, I will like to respectfully ask you to consider this issue again and please temper justice with mercy. I believe he has already learnt his lessons having been seen through all these. I believed his quest to meet his families responsibilities got him into this.

Thank you in advance.

Yours faithfully

.....  
Mr. Abass Karim

Honorable Deborah A. Batts  
 United State District Judge  
 Southern District of New York  
 United State Courthouse  
 500 Pearl Street  
 New York, New York  
 10007

Dear Honorable Judge Batts

It is my greatest Pleasure and honour to write you this letter pleading on behalf of Kwame Osei Prempeh for leniency on the day of Sentencing Ayisata Adams in my name. I am 19 years of age working as a Sales Person in Amazon.com. I am enrolled in Delaware Technical Community College Studying to become a Nurse to help the Nation.

I am the girlfriend of Kwame who pled guilty to serious Crime and am in the position to raise your awareness about the difficult life he had growing up as a child and where he stands at when family matters comes up. He comes from a polygamy home in the rural areas of Africa, his mother being the third wife and a mere trader who sell perishable goods to survive and take care of him and his siblings till the sudden illness. The illness rendered her too preventing her to be the sole provider of the family.

Kwame stood up to be the father of his new family a very younger because his father at a very young age because his father had abandon them.

each and every member of his family depend on him for food, shelter and tuition. Their life has totally changed from the day he was incarcerated, his younger siblings are not of age to provide and take care of their mother when medical issues arise. His mother needs his assistance in order to live due to her health condition.

Mr. Premph is very aware of the bad act he involved himself in and he is very remorseful. I strongly believe when given a second chance would make good use of it and stay out of trouble.

Yours faithfully  
Ayusata Adams

Ayusata A. Adams

Honorable Deborah A. Batts  
United States District Judge  
Southern District of New York  
United States Courthouse  
500 Pearl Street  
New York, NY 10007

Dear Honorable Judge Batts,

It is my greatest pleasure and honor to write you this letter pleading on behalf of Kwame Osei Prempeh for leniency on the day of Sentencing. Ayisata Adams is my name, am 19 years old working as a Salesperson in Amazon.com. I am enrolled in Delaware Technical Community College studying to become a nurse to help the nation.

I am the girlfriend of Kwame who pled guilty to serious crime and am in the position to raise your awareness about the difficult life he had growing up as a child and where he stands at when family matters comes up. He comes from a polygamy home in the rural areas of Africa, his mother being the thirds wife and a mere trader who sell perishable goods to survive and take care of him and his siblings till the sudden illness. The illness rendered her body preventing her to be the sole provider of the family.

Kwame stood up to be the father of his family a very younger because his father a very young age because his father had abandon them. Each and every member of his family depend on him for food, shelter and tuition. There life has totally changed from the day he was incarcerated. His younger siblings are not of age to provide and take care of their mother when medical issues arise. His mother need his assistance in order to live due to her health condition.

Mr. Prempeh is very aware of the bad act he involved himself in and he is very remorseful. I strongly believe when given a second chance he would make good use of it and stay out of trouble.

Yours faithfully,

Ayisata A. Adams

## **EXHIBIT E**

**washingtonpost.com**

## **Brain Immaturity Could Explain Teen Crash Rate**

Risky Behavior Diminishes At Age 25, NIH Study Finds

By Elizabeth Williamson  
Washington Post Staff Writer  
Tuesday, February 1, 2005; Page A01

By most physical measures, teenagers should be the world's best drivers. Their muscles are supple, their reflexes quick, their senses at a lifetime peak. Yet car crashes kill more of them than any other cause -- a problem, some researchers believe, that is rooted in the adolescent brain.

A National Institutes of Health study suggests that the region of the brain that inhibits risky behavior is not fully formed until age 25, a finding with implications for a host of policies, including the nation's driving laws.

"We'd thought the highest levels of physical and brain maturity were reached by age 18, maybe earlier -- so this threw us," said Jay Giedd, a pediatric psychiatrist leading the study, which released its first results in April. That makes adolescence "a dangerous time, when it should be the best."

Last month, Sen. William C. Mims (R-Loudoun) cited brain development research in proposing a Virginia bill that would ban cell phone use in vehicles by drivers younger than 18. It passed Friday.

In Maryland, Dels. Adrienne A. Mandel and William A. Bronrott said the research could bolster three bills the Montgomery County Democrats submitted to the legislature Friday. The bills would expand training and restrict passenger numbers and cell phone use for certain teenage drivers.

The measures also are supported by crash statistics and a soon-to-be-released study from Temple University, which used a driving-style test to show that young people consistently take greater risks when their friends are watching.

"This goes toward supporting evidence that the judgment of teens further deteriorates with distractions. These crashes are preventable," Mandel said. "I would welcome [researchers'] testimony at our bill hearings."

The research has implications beyond driving: Attorneys cited brain development studies as the U.S. Supreme Court considered whether juvenile offenders should be eligible for the death penalty. The court is expected to reach a decision by midyear.

Critics of brain-imaging research -- and Giedd himself -- emphasize that there is no proven correlation between brain changes and behavior. Giedd, however, said the duration and depth of the study mean "it's time to bring neuroscience to the table" in the teen driving debate.

"We can determine what is the relationship between brain development and driving ability and what we can do to make it better," Giedd said.

At Temple University in Philadelphia, psychology professor and researcher Laurence Steinberg plans a new study: scanning teenagers' brains while they perform a task that simulates driving decisions, in an

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effort to understand the biological underpinnings of risk-taking among young people.

Giedd intends to pursue similar studies with his subjects, focusing on ways to give young people, and those responsible for them, more tools for beating the odds.

Teenagers are four times as likely as older drivers to be involved in a crash and three times as likely to die in one, according to the Insurance Institute for Highway Safety.

"Right now our first subjects are reaching driving age," Giedd said. "What better application could there be than saving their lives?"

### **Environmental Impact**

Lily and Zoe Ulrich, 15-year-old identical twins from Frederick, have been part of Giedd's study at NIH for two years. When they signed up, they answered questions about their diet, athletics, social habits, peer pressure, language skills and intellectual achievements.

The blond, 5-foot-4 sisters wear glasses, earn straight A's and often finish each other's sentences. They will receive their learner's permits this month. "I'm excited . . . it's really cool," Lily said. "I'm a little more nervous," said Zoe. "We think the same a lot of the time but not always."

Giedd would like to know why.

Sitting in his closet-size office in NIH's sprawling Building 10, he turns to his laptop, where the fruit of 13 years' work appears. It's an eight-second, time-lapse image of the brain, swept by a vivid blue wave symbolizing maturing gray matter. The color engulfs the frontal lobes and ends in "a direct hit," Giedd said, with the dorsal-lateral prefrontal cortex, just behind the brow.

About as thick and wide as a silver dollar, this region distinguishes humans from other animals. From it, scientists believe, come judgments and values, long-term goals, the weighing of risks and consequences -- what parents call wisdom or common sense and what science calls "executive functions."

While society and tradition have placed the point of intellectual maturity, the "age of reason," years earlier, the study -- an international effort led by NIH's Institute of Mental Health and UCLA's Laboratory of Neuro Imaging -- shows it comes at about age 25.

The process is generally completed a year or two earlier in women but varies greatly from person to person. Why that is, Giedd said, "we still don't know."

"We have to find out what matters. Diet? Education, video games? Medicine, parenting, music? Is the biggest factor whether you're a musician or a jock or the amount of sleep you get?"

As important, Giedd said, is the study's finding that the brain matures in a series of fits and starts. While it remains to be proved, he said, this "may be a key to when the brain is most receptive" to learning certain skills, such as driving.

The study, which is ongoing, involves scanning the brains of 2,000 people ages 4 through 26 using magnetic resonance imaging, a radiation-free tool that permits researchers to view the organs of healthy people in minute detail.

Every two years, study participants come to the Bethesda-based National Institute of Mental Health, where they are scanned and interviewed. Half the children are healthy, and half have brain-related disorders. In the next phase, researchers plan to focus almost solely on twins, hoping to expand beyond the 180 pairs participating now, to measure the impact of environmental factors on the maturing brain.



Giedd said he's been bashed by teenagers who said the study suggests they're brain-damaged. On the contrary, he said: "Teenagers' brains are not broken; they're just still under construction."

The pattern probably serves an evolutionary purpose, he said, perhaps preparing youths to leave their families and fend for themselves, without wasting energy worrying about it.

The findings imply that many life choices -- college and career, marriage and military service -- often are made before the brain's decision-making center comes fully online. But for young adults, "dying on a highway is the biggest risk out there," Giedd said. "What if we could predict earlier in life what could happen later?"

#### **A 'Period of Recklessness'**

Temple's Steinberg said the NIH/UCLA research supports his theory that teen recklessness is partly the result of a critical gap in time -- starting with the thrill-seeking that comes in puberty and ending when the brain learns to temper such behavior. Since children today reach puberty earlier than previously, about age 13, and the brain's reasoning center doesn't reach maturity until the mid-twenties, Steinberg said, "this period of recklessness has never been as long as it is now."

In a study to be published this year, Temple researcher Margo Gardner and Steinberg illustrated the impact of peer pressure on risk-taking. Volunteers in three age groups -- 13 to 16, 18 to 22 and 24 and older -- were told to bring two friends to the study, which involved an arcade-style driving game.

To "win," participants guided a car through a course as quickly as possible. Periodically, a yellow warning light flashed, and some time later a "wall" popped up. If players hit it, they lost all their "points."

Participants took the test alone and with their friends in the room. Researchers found that those in the two younger groups consistently took more chances with friends present. Those 24 and older behaved equally cautiously, regardless of whether friends were watching.

The results help show why teenagers are more likely to drink, take drugs or commit crimes in groups, he said. They're also reflected in auto crash statistics.

According to the Arlington-based Insurance Institute for Highway Safety, the chances of a crash by a 16- or 17-year-old driver are doubled with two peers in the vehicle and quadrupled with three or more. "Every passenger you add increases the risk," said Alan Williams, chief scientist at the institute. The brain and behavior studies, he said, "certainly tie in with what we know."

After a spate of teen driving deaths across the Washington region in the fall, Maryland is attempting to join Virginia and the District in limiting the number of unrelated passengers in cars with young drivers. In addition to cell phone restrictions that the Maryland and Virginia legislatures are considering, Maryland Gov. Robert L. Ehrlich Jr. (R) is backing a measure that would revoke the licenses of convicted drunk drivers under age 21, for as long as five years.

Steinberg said he agrees with such approaches. "We have to limit the harm adolescents [encounter], rather than to try and change them."

The best way to do that, he added, "is by passing laws."

*Staff writer David Snyder contributed to this report.*

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